SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

| Trade name or designation of the mixture | JADECAST 30 |
| Registration number | - |
| Synonyms | None. |
| Brand Code | 433B |
| Issue date | 05-February-2018 |
| Version number | 01 |

1.2. Relevant identified uses of the substance or mixture and uses advised against

| Identified uses | For Industrial Use Only |
| Uses advised against | Users should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations. |

1.3. Details of the supplier of the safety data sheet

| Supplier | HarbisonWalker International |
| Company name | HarbisonWalker International |
| Address | 1305 Cherrington Parkway, Suite 100 |
| Moon Township, PA 15108, USA |
| Division | United States |
| Telephone | General Phone: 412-375-6600 |
| CHEMTREC EMERGENCY | 1-800-424-9300 |
| e-mail | sds@thinkHWI.com |
| Contact person | HWI USA |
| 1.4. Emergency telephone number | Not available. |

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

| Classification according to Regulation (EC) No 1272/2008 as amended | This mixture does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended. |
| Hazard summary | Exposure to powder or dusts may be irritating to eyes, nose and throat. Prolonged exposure may cause chronic effects. Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects. |

2.2. Label elements

| Label according to Regulation (EC) No. 1272/2008 as amended | Contains: Boric acid, Chromium (III) oxide |
| Hazard pictograms | None. |
| Signal word | None. |
| Hazard statements | The mixture does not meet the criteria for classification. |

Precautionary statements

| Prevention | Observe good industrial hygiene practices. |
| Response | Wash hands after handling. |
| Storage | Store away from incompatible materials. |
| Disposal | Dispose of waste and residues in accordance with local authority requirements. |
After installation and during service, exposure of this product to high temperature and/or certain chemical elements may cause a change to occur to this product and create chrome (VI) compounds. Therefore, during tear out, care should be taken in the removal and handling of this product. Exposure to chrome (VI) compounds may cause cancer. Excessive inhalation will increase the risk of serious respiratory damage. Limit contact with eyes, skin, and mucous membranes since chrome (VI) compounds are also corrosive and may cause skin and nasal septum ulcers. NIOSH approved respirators and protective clothing should be worn while handling this product during tear out. Users should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Overexposure to the respirable dust of crystalline silica (quartz or cristobalite, less than or equal to 5 microns in size) may lead to silicosis in humans, which is a progressive and irreversible lung disease. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

<table>
<thead>
<tr>
<th>General information</th>
<th>Chemical name</th>
<th>%</th>
<th>CAS-No. / EC No.</th>
<th>REACH Registration No.</th>
<th>INDEX No.</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aluminium Oxide (Non-Fibrous)</td>
<td>60 - 80</td>
<td>1344-28-1 215-691-6</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chromium (III) oxide</td>
<td>20 - 40</td>
<td>1308-38-9 215-160-9</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cement, Alumina, Chemicals</td>
<td>1 - 2.5</td>
<td>65997-16-2 266-045-5</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Boric acid</td>
<td>0.1 - 1</td>
<td>10043-35-3 233-139-2</td>
<td>-</td>
<td>005-007-00-2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other components below reportable levels</td>
<td>2.5 - 10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

List of abbreviations and symbols that may be used above

#: This substance has been assigned Union workplace exposure limit(s).  
M: M-factor  
PBT: persistent, bioaccumulative and toxic substance.  
vPvB: very persistent and very bioaccumulative substance.  
All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.  

Composition comments  
The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

<table>
<thead>
<tr>
<th>General information</th>
<th>Inhalation</th>
<th>Skin contact</th>
<th>Eye contact</th>
<th>Ingestion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Move to fresh air. Call a physician if symptoms develop or persist.</td>
<td>Wash off with soap and water. Get medical attention if irritation develops and persists.</td>
<td>Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.</td>
<td>Rinse mouth. Get medical attention if symptoms occur.</td>
</tr>
</tbody>
</table>

4.2. Most important symptoms and effects, both acute and delayed

Dusts may irritate the respiratory tract, skin and eyes.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

General fire hazards  
Not available.
5.1. Extinguishing media
   Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.
   Unsuitable extinguishing media: Not available.

5.2. Special hazards arising from the substance or mixture: Not available.

5.3. Advice for firefighters:
   Special protective equipment for firefighters: Not available.
   Special fire fighting procedures: Not available.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:
   For non-emergency personnel: Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS.
   For emergency responders: Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up:
   Avoid the generation of dusts during clean-up. Collect dust using a vacuum cleaner equipped with HEPA filter. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk.
   For large spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.
   For small spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.

6.4. Reference to other sections:
   For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling:
   Minimise dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Do not breathe dust. Avoid prolonged exposure. Practice good housekeeping.

7.2. Conditions for safe storage, including any incompatibilities:
   Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

7.3. Specific end use(s): Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters:
   Occupational exposure limits:
   UK. EH40 Workplace Exposure Limits (WELs) Components Type Value Form
   Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1) TWA 4 mg/m³ Respirable dust.
   Chromium (III) oxide (CAS 1308-38-9) TWA 10 mg/m³ Inhalable dust.
   Quartz (SiO2) (CAS 14808-60-7) TWA 0.5 mg/m³ Respirable.
   No biological exposure limits noted for the ingredient(s).
   Follow standard monitoring procedures.

   Derived no effect levels (DNELs): Not available.
   Predicted no effect concentrations (PNECs): Not available.
Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled. Zirconium silicates (zircon sands) contain trace amounts (106-120 pCi/g) of naturally occurring radioactive uranium and thorium. Overexposure by inhalation to respirable dust containing uranium and thorium may cause lung cancer. Eye contact with the dust may cause eye irritation. Measurements made by Dupont during the use of a similar mineral sand indicated the observance of the 5 mg/m3 OSHA PEL for respirable dust and/or the PEL for quartz ensures the user is below the exposure limits established for uranium and thorium. No LD50 or LC50 can be found for zircon sand.

### 8.2. Exposure controls

**Appropriate engineering controls**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL (occupational exposure limit), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.

### Individual protection measures, such as personal protective equipment

**General information**

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

**Eye/face protection**

Wear safety glasses with side shields (or goggles).

**Skin protection**

- **Hand protection**
  Wear appropriate chemical resistant gloves.

- **Other**
  Wear suitable protective clothing.

**Respiratory protection**

Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

**Thermal hazards**

Wear appropriate thermal protective clothing, when necessary.

### Hygiene measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

### Environmental exposure controls

Environmental manager must be informed of all major releases.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

**Appearance**

- **Physical state**
  Solid.

- **Form**
  Powder.

- **Colour**
  Not available.

- **Odour**
  Not available.

- **Odour threshold**
  Not available.

- **pH**
  Not available.

- **Melting point/freezing point**
  Not available.

- **Initial boiling point and boiling range**
  Not available.

- **Flash point**
  Not available.

- **Evaporation rate**
  Not available.

- **Flammability (solid, gas)**
  Not available.

- **Upper/lower flammability or explosive limits**
  - Flammability limit - lower (%)
    Not available.
  - Flammability limit - upper (%)
    Not available.

- **Vapour pressure**
  Not available.
Vapour density Not available.
Relative density Not available.
Solubility(ies)
   Solubility (water) Not available.
   Solubility (other) Not available.
Partition coefficient (n-octanol/water) Not available.
Auto-ignition temperature Not available.
Decomposition temperature Not available.
Viscosity Not available.
Explosive properties Not explosive.
Oxidising properties Not oxidising.
9.2. Other information No relevant additional information available.

SECTION 10: Stability and reactivity
10.1. Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability Material is stable under normal conditions.
10.3. Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid Contact with incompatible materials.
   Incompatibility is based strictly upon potential theoretical reactions between chemicals and may not be specific to industrial application exposure.
10.6. Hazardous decomposition products No hazardous decomposition products are known.

SECTION 11: Toxicological information
General information Occupational exposure to the substance or mixture may cause adverse effects.
Information on likely routes of exposure
   Inhalation Dust may irritate respiratory system. Prolonged inhalation may be harmful.
   Skin contact Dust or powder may irritate the skin.
   Eye contact Dust may irritate the eyes.
   Ingestion May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.
Symptoms Dusts may irritate the respiratory tract, skin and eyes.
11.1. Information on toxicological effects
Acute toxicity Not known.
Components Species Test results
Boric acid (CAS 10043-35-3)
   Acute Inhalation
      LC50 Rat > 0.002 mg/l, 4 Hours

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Due to partial or complete lack of data the classification is not possible.
Serious eye damage/eye irritation Due to partial or complete lack of data the classification is not possible.
Respiratory sensitisation Due to partial or complete lack of data the classification is not possible.
Skin sensitisation Due to partial or complete lack of data the classification is not possible.
Germ cell mutagenicity Due to partial or complete lack of data the classification is not possible.
**Carcinogenicity**

In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that “carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs.” (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled. Risk of cancer cannot be excluded with prolonged exposure.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Chromium (III) oxide (CAS 1308-38-9) 3 Not classifiable as to carcinogenicity to humans.

**Reproductive toxicity**

Due to partial or complete lack of data the classification is not possible.

**Specific target organ toxicity**

- **single exposure**
  Due to partial or complete lack of data the classification is not possible.

- **repeated exposure**
  Due to partial or complete lack of data the classification is not possible.

**Aspiration hazard**

Due to partial or complete lack of data the classification is not possible.

**Mixture versus substance information**

No information available.

**Other information**

This product has no known adverse effect on human health.

**SECTION 12: Ecological information**

12.1. **Toxicity**

Based on available data, the classification criteria are not met for hazardous to the aquatic environment.

12.2. **Persistence and degradability**

No data is available on the degradability of this product.

12.3. **Bioaccumulative potential**

No data available.

**Partition coefficient n-octanol/water (log Kow)**

Not available.

**Bioconcentration factor (BCF)**

Not available.

12.4. **Mobility in soil**

No data available.

12.5. **Results of PBT and vPvB assessment**

Not available.

12.6. **Other adverse effects**

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

**SECTION 13: Disposal considerations**

13.1. **Waste treatment methods**

**Residual waste**

As sold, this product is not RCRA hazardous. Final used condition must be evaluated prior to disposal. Dispose of waste product in accordance with Federal, State and Local regulations. The chrome compounds (Cr III) in this product may be altered to a hexavalent compound (Cr VI) under certain use conditions, such as exposure to alkali salts and/or high temperatures. Proper waste testing (such as TCLP) must be done to determine the waste status of used product. Reuse and recycling of chrome Refractories is recommended whenever possible.

**Contaminated packaging**

Not available.

**EU waste code**

Not available.

**Disposal methods/information**

This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

**SECTION 14: Transport information**

**ADR**

14.1. **UN number**

UN3077
14.2. UN proper shipping name
Environmentally hazardous substance, solid, n.o.s. (Chromium (III) oxide)

14.3. Transport hazard class(es)

- Class 9
- Subsidiary risk -
- Label(s) 9
- Hazard No. (ADR) 90
- Tunnel restriction code E

14.4. Packing group III
14.5. Environmental hazards
Yes

14.6. Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number UN3077
14.2. UN proper shipping name Environmentally hazardous substance, solid, n.o.s. (Chromium (III) oxide)

14.3. Transport hazard class(es)

- Class 9
- Subsidiary risk -
- Label(s) 9

14.4. Packing group III
14.5. Environmental hazards
Yes

14.6. Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number UN3077
14.2. UN proper shipping name Environmentally hazardous substance, solid, n.o.s. (Chromium (III) oxide)

14.3. Transport hazard class(es)

- Class 9
- Subsidiary risk -
- Label(s) 9

14.4. Packing group III
14.5. Environmental hazards
Yes

14.6. Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number UN3077
14.2. UN proper shipping name Environmentally hazardous substance, solid, n.o.s. (Chromium (III) oxide)

14.3. Transport hazard class(es)

- Class 9
- Subsidiary risk -
- ERG Code 9L

14.4. Packing group III
14.5. Environmental hazards
Yes

14.6. Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.

Other information
Passenger and cargo aircraft
Allowed with restrictions.

Cargo aircraft only
Allowed with restrictions.

IMDG

14.1. UN number UN3077
14.2. UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Chromium (III) oxide), MARINE POLLUTANT

14.3. Transport hazard class(es)

- Class 9
- Subsidiary risk -
14.4. Packing group
III

14.5. Environmental hazards
Marine pollutant Yes
EmS F-A, S-F

14.6. Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
ADN; ADR; IATA; IMDG; RID

Not applicable.

Marine pollutant

IMDG Regulated Marine Pollutant.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations
- Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex I
  Not listed.
- Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex II
  Not listed.
  Not listed.
- Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended
  Not listed.
- Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended
  Not listed.
- Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended
  Not listed.
- Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended
  Not listed.
- Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry
  Not listed.
- Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA
  Boric acid (CAS 10043-35-3)

Authorisations
- Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended
  Not listed.
Restrictions on use

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use
Not regulated.

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended
Boric acid (CAS 10043-35-3)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and
mutagens at work
Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended
Not listed.

Other regulations
The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

National regulations
Follow national regulation for work with chemical agents.

15.2. Chemical safety assessment
No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations
Not available.

References
Not available.

Information on evaluation method leading to the classification of mixture
Not available.

Full text of any H-statements not written out in full under Sections 2 to 15
None.

Revision information
None.

Training information
Not available.

Disclaimer
This information is based on our present knowledge on creation date. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.